UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,385	03/07/2002	Masao Kamiguchi	392.1739	8740

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EXAMINER
HEITBRINK, JILL LYNNE

ART UNIT	PAPER NUMBER
1732	

DATE MAILED: 04/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/091,385	KAMIGUCHI ET AL.
	Examiner	Art Unit	
	Jill L. Heitbrink	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>01 February 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-36</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-36</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>07 March 2002</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on Dec.

21, 2004 has <u>not</u> been entered. Applicant's amendment/reply filed with the request on

Feb. 1, 2005 has been entered.

Claim Rejections - 35 USC § 112

2.   The rejection of claims 1-36 under 35 U.S.C. 112, second paragraph, has been

removed in view of applicant's amendment. It is noted that in claims 30 and 32, the last

phrase "based on the obtained interdependency relation" is referring to both alternatives

in the "at least one of" phrase.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4.   Claims 1-36 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by

Kamiguchi et al. (European Patent 1,044,781), see page 7, lines 22-page 8, line 57.

Kamiguchi et al. discloses performing injection air shots, obtaining data and obtaining

interdependency relationships of the resin pressure, temperature, velocity and screw position, time.

5.   Kamiguchi discloses performing air shots and measuring data "under various resin temperatures and injection velocities for the same shapes of the cylinder and that of the nozzle of the molding machine and the same resin" (page 7, lines 43-45). "The molding condition data 102 includes a resin temperature, an injection velocity and injection uppermost pressure, a die temperature and the like" (Page 6, lines 40-41). The obtained data is used for obtaining the injection pressure P serving as a molding condition (page 8, lines 22-29). As to claim 11, Kamiguchi discloses automatically obtaining an interdependency relation of the resin pressure with respect to the resin temperature and the injection velocity or flow rate of resin (see page 13, lines 6 and 7) based on combinations of the data of the injection pressure, the injection velocity and the resin temperature in the injections (see page 13, lines 8-10). As to claim 17, Kamiguchi discloses an analyzing means for obtaining a degree of resin temperature dependency of the resin pressure and/or a degree of velocity or flow rate dependency of the resin pressure page 14, lines 2-4) based on the resin pressure at set screw position or at set points in time elapsing from a start of injection (page 13, lines 56-58, curved data is based on time as shown in Fig. 5). As to claim 22, Kamiguchi discloses analyzing means for obtaining an interdependency relation between the resin pressure with respect to the resin temperature and an injection velocity or a flow rate of resin (see page 13, lines 6 and 7) based on the detected resin pressure, the injection velocity and the resin temperature at set screw positions or at set points in time elapsing from a start

of each injection (see page 13, lines 8-10 and the curved data based on time). As to

claim 28, Kamiguchi discloses analyzing means for analyzing interdependency relation

of the resin pressure with respect to the resin temperature and the injection velocity or a

flow rate of resin based on data stored in the storing means (page 13, lines 51- page

14, line 4).

6.   Claims 1-36 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by

Nunn (Pat. No. 4,850,217). Nunn discloses performing injection molding using a

plurality of different conditions and plotting and analysising the conditions based on

screw position and time, Fig. 3 and 4, and the exponential function with resin

temperature, viscosity, col. 5, lines 1-25.

7.   As to claims 1 and 5, Nunn discloses obtaining a degree of resin-temperature

dependency of a resin pressure and/or a degree of velocity or flow-rate dependency or

interdependency of a resin pressure (Fig. 3 shows the dependency of temperature and

pressure) based on a relationship between the resin pressure and a screw position or a

relationship between the resin pressure and an elapsing time (Fig. 3 shows the

dependency based on time) from a start of each injection obtained in the injections of

resin. As to claim 11, Nunn discloses automatically obtaining an interdependency

relation of the resin pressure with respect to the resin temperature and the injection

velocity or flow rate of resin (col. 7, lines 26-52) based on combinations of the data of

the injection pressure, the injection velocity and the resin temperature in the injections

(col. 3, lines 48-51). As to claim 17, Nunn discloses an analyzing means for obtaining a

degree of resin temperature dependency of the resin pressure and/or a degree of

velocity or flow rate dependency of the resin pressure (Fig. 3) based on the resin

pressure at set screw position (col. 3, lines 51-53) or at set points in time elapsing from

a start of injection. As to claim 22, Nunn discloses analyzing means (graphing) for

obtaining an interdependency relation between the resin pressure with respect to the

resin temperature and an injection velocity or a flow rate of resin based on the detected

resin pressure, the injection velocity and the resin temperature at set screw positions or

at set points in time elapsing from a start of each injection (Figures 3 and 4). As to

claim 28, Nunn discloses analyzing means (graphing) for analyzing interdependency

relation (col. 13, lines 32-34) of the resin pressure with respect to the resin temperature

and the injection velocity or a flow rate of resin based on data stored in the storing

means.

Response to Arguments

8.   Applicant's arguments filed Feb. 1, 2005 have been fully considered but they are

not persuasive.

9.   The rejection based on Sheth is withdrawn in view of applicant's arguments that

the testing in Sheth is static and not a dynamic injection state.

10.   Applicant argues that Kamiguchi does not teach at least a relationship between

the resin pressure and the resin temperature, excluding the resin volume as a variable,

for evaluating a resin condition, as is disclosed in each of independent claims 1, 5, 11,

17, 22, and 28. However, "excluding the resin volume" is not disclosed or claimed by

applicant. "Volume" is never mentioned in the specification. The claims refer to "the

screw position" which directly determines the resin volume as is known in the art of injection. Therefore, the claims are not directed to excluding the resin volume as a variable.

11.   Applicant argues that Kamiguchi discloses obtaining a pressure-volume-temperature relationship as a function of time and fails to teach or suggest obtaining the relationship between the resin pressure and the resin temperature excluding the resin volume as a variable. However, Page 3, lines 50-55 clearly disclose the obtaining of the relationship between the resin pressure and the resin temperature without any mention of volume.

12.   Applicant argues that Nunn does not teach at least a relationship between the resin pressure and the resin temperature, excluding the resin volume as a variable, for evaluating a resin condition. However, "excluding the resin volume" is not disclosed or claimed by applicant. "Volume" is never mentioned in the specification. The claims refer to "the screw position" which directly determines the resin volume as is known in the art of injection. Therefore, the claims are not directed to excluding the resin volume as a variable.

13.   Applicant argues that Nunn does not disclose the obtaining or analyzing any of the relationships or interrelationships between resin pressure, temperature, time, and nozzle position. "Nozzle position" is not disclosed or claimed. The examiner believes this should be referring to screw position. However, these relationships are clearly determined in Nunn at col. 3, line 49-col. 4, line 22.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill L. Heitbrink whose telephone number is (571) 272-1199. The examiner can normally be reached on Monday-Friday 9 am -2 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jill L. Heitbrink
Primary Examiner
Art Unit 1732

jlh